WHAT IS CLAIMED IS:

1. A process for producing selective immune down regulation in an adult subject to a gene delivery component comprising introducing into said adult subject a reagent or a combination of reagents capable of producing selective immune down regulation.

2. The process of claim 1, wherein said selective immune down regulation is dominant.

3. The process of claim 1, wherein said gene delivery component is viral.

4. The process of claim 2, wherein said gene delivery component is viral.

5. The process of claim 4, wherein said viral component comprises adenovirus.

6. The process of claim 1, wherein said gene delivery component is non-viral.

7. The process of claim 6, wherein said non-viral component comprises a non-viral protein or ligand.

8. The process of claim 1, wherein said reagent or combination of reagents are introduced continuously.

9. The process of claim 1, wherein said reagent or combination of reagents are introduced in a series of separate administrations.

10. The process of claim 1, further comprising comprising administering to said subject one or more anti-apoptotic agents.

11. The process of claim 11, wherein said one or more anti-apoptotic agents are selected from the group consisting of physiologic inhibitors, viral genes and pharmacological agents, or a combination of any of the foregoing.

12. The process of claim 11, wherein said anti-apoptotic agent comprises an antibody directed against an apoptotic factor or an antibody directed against a cytokine.

13. The process of claim 1, wherein said adult subject is a mammal.

14. The process of claim 13, wherein said mammal is human.

15. A kit useful for producing selective immune down regulation in an adult subject to a gene delivery component, said kit comprising in packaged combination or containers a reagent or reagents capable of producing selective immune down regulation, and buffers and instructions therefor.

16. A process for producing selective immune down regulation in an adult subject to an artificially expressed gene within said adult subject, the process comprising introducing into said adult subject a reagent or a combination of reagents capable of producing selective immune down regulation, said reagent or combination of reagents comprising a product or product fragment expressed from said gene.

17. The process of claim 16, wherein said selective immune down regulation is dominant or said reagent or combination of reagents are capable of producing dominant immune down regulation.

18. The process of claim 16, wherein said gene is native or non-native.

19. The process of claim 16, wherein said gene is viral.

20. The process of claim 17, wherein said gene is viral.

21. The process of claim 20, wherein said viral gene comprises adenovirus.

22. The process of claim 16, wherein said gene is non-viral.

23. The process of claim 16, further comprising comprising administering to said subject one or more anti-apoptotic agents.

24. The process of claim 23, wherein said one or more anti-apoptotic agents are selected from the group consisting of physiologic inhibitors, viral genes and pharmacological agents, or a combination of any of the foregoing.

25. The process of claim 23, wherein said anti-apoptotic agent comprises an antibody directed against an apoptotic factor or an antibody directed against a cytokine.

26. The process of claim 16, wherein said subject is a mammal.

27. The process of claim 26, wherein said mammal is a human.

28. A kit useful for producing selective immune down regulation in an adult subject to an artificially expressed gene, said kit comprising in packaged combination or containers a reagent or reagents capable of producing selective immune down regulation in an adult subject, and buffers and instructions therefor.

29. A process for producing selective immune down regulation in an adult subject to a gene delivery system and to a product from expression of an artificially introduced gene by said delivery system in said adult subject, said process comprising introducing to said adult subject a reagent or a combination of reagents capable of producing selective immune down regulation, said reagent or reagents comprising a component or components of said delivery system and a product or product fragment expressed from said gene.

30. The process of claim 29, wherein said selective immune down regulation is dominant or said reagent or combination of reagents are capable of producing dominant immune down regulation.

31. The process of claim 29, wherein said gene is native or non-native.

32. The process of claim 29, wherein said gene delivery system or component, or said expressed gene, or both, are viral.

33. The process of claim 30, wherein said gene delivery system or component, or said expressed gene, or both, are viral.

34. The process of claim 33, wherein said viral system or component, or said expressed viral gene, or both, comprise adenovirus.

35. The process of claim 29, wherein said gene delivery system or component, or said expressed gene, or both, are non-viral.

36. The process of claim 29, further comprising administering to said subject one or more anti-apoptotic agents.

37. The process of claim 36, wherein said anti-apoptotic agents are selected from the group consisting of physiologic inhibitors, viral genes and pharmacological agents, or a combination of any of the foregoing.

38. The process of claim 36, wherein said anti-apoptotic agent comprises an antibody directed against an apoptotic factor or an antibody directed against a cytokine.

39. The process of claim 29, wherein said adult subject is a mammal.

40. The process of claim 39, wherein said mammal is a human.

41. A kit useful for producing selective immune down regulation in an adult subject to gene delivery or to expression of an artificially introduced gene in said adult subject, said kit comprising in packaged combination or containers (i) a reagent or a combination of reagents capable of producing selective immune down regulation, and optionally, (ii) one or more anti-apoptotic agents, and buffers and instructions therefor.

42. A process for producing selective immune down regulation in a subject to an infectious agent comprising introducing to said subject a reagent or a combination of reagents capable of producing selective immune down regulation and comprising a component or components or fragments thereof of said infectious agent.

43. The process of claim 42, wherein said infectious agent is selected from the group consisting of bacteria, viruses and fungi, or a combination of any of the foregoing.

44. The process of claim 43, wherein said viral infectious agent is selected from the group consisting of HBV, HCV, HIV-1, HIV-2, HTLV-1, CMV, EBV and HSV, or a combination of any of the foregoing.

45. The process of claim 42, wherein said infectious agent component or components or fragments thereof are contained within a cell matrix of said subject, or are complexed with a cell receptor or antibodies of said subject, or any conjugates derived from the foregoing.

46. The process of claim 42, wherein said selective immune down regulation is dominant or said reagent or combination of reagents are capable of producing dominant immune down regulation.

47. The process of claim 46, wherein said dominant immune down regulation is effected by administering at least one component or a fragment of said infectious agent or a cell containing a component or fragment of said infectious agent.

48. The process of claim 43, further comprising treating said subject with an effective amount of a compound selected from the group consisting of antiviral compounds, antibacterial compounds and antifungal compounds, or a combination of any of the foregoing.

49. The process of claim 48, wherein said antiviral compounds comprise a member selected from the group consisting of chemotherapeutic agents, enzyme inhibitors, and interferons, or a combination of any of the foregoing.

50. The process of claim 42, further comprising comprising administering to said subject one or more anti-apoptotic agents.

51. The process of claim 50, wherein said one or more apoptotic agents are selected from the group consisting of physiologic inhibitors, viral genes and pharmacological agents, or a combination of any of the foregoing.

52. The process of claim 50, wherein said anti-apoptotic agent comprises an antibody directed against an apoptotic factor or an antibody directed against a cytokine.

53. The process of claim 42 or 51, further comprising exposing said subject to at least one other immune modulating treatment selected from immune suppression and selective immune down regulation.

54. The process of claim 42, wherein said subject is a mammal.

55. The process of claim 54, wherein said mammal is a human.

56. A kit useful for producing selective immune down regulation in a subject to an infectious agent comprising in packaged combination or containers (i) a reagent or a combination of reagents capable of producing selective immune down regulation, said reagent or combination of reagents comprising a component or components or fragments thereof of said infectious agent, and (ii) buffers and instructions therefor.

57. A process for producing immunological tolerance in a subject to a gene delivery component or to an artificially expressed gene in said subject, or to both, said process comprising subjecting said subject to more than one immune modulating treatment, at least one of which treatment is selective immune down regulation and at least one other treatment is selected from the group consisting of general immune suppression, anti-apoptosis and selective immune down regulation.

58. The process of claim 57, wherein said at least two immune modulating treatments are selected from the groups consisting of:

selective immune down regulation and general immune suppression;

selective immune down regulation and anti-apoptosis; and

selective immune down regulation, immune suppression and anti-apoptosis.

59. The process of claim 57, wherein the subject is exposed to said at least two immune modulating treatments prior to administration of said gene delivery component or expression of said artificially expressed gene.

60. The process of claim 57, wherein the subject is exposed to said at least two immune modulating treatments after administration of said gene delivery component or expression of said artificially expressed gene.

61. The process of claim 57, wherein the subject is exposed to said at least two immune modulating treatments at substantially the same time as said gene delivery component is administered or said gene is artificially expressed.

62. The process of claim 57, wherein the subject is simultaneously exposed to said at least two immune modulating treatments.

63. The process of claim 57, wherein the subject is exposed to said at least two immune modulating treatments at different times.

64. The process of claim 57, wherein said selective immune down regulation is dominant.

65. The process of claim 57, wherein said gene delivery component, or said expressed gene, or both, are viral.

66. The process of claim 65, wherein said viral component, or said expressed viral gene, or both, comprise adenovirus.

67. The process of claim 57, wherein said gene delivery component, or said expressed gene, or both, are non-viral.

68. The process of claim 57, wherein said immune suppression is effected by administering an effective amount of an immunosuppressive compound to said subject.

69. The process of claim 68, wherein said immunosuppressive compound is selected from the group consisting of a corticosteroid, a cytotoxic drug, cyclosporine, and an antilymphocyte antibody, or a combination of any of the foregoing.

70. The process of claim 69, wherein said antilymphocyte antibody comprises a polyclonal antibody or a monoclonal antibody.

71. The process of claim 57, wherein said anti-apoptosis treatment is carried out by administering to said subject one or more anti-apoptotic agents selected from the group consisting of physiologic inhibitors, viral genes and pharmacological agents, or a combination of any of the foregoing.

72. The process of claim 57, wherein said subject is a mammal.

73. The process of claim 72, wherein said mammal is a human.

74. The process of claim 57, wherein both a gene delivery component is introduced into said subject and a gene is artificially expressed in said subject.

75. A kit useful for producing selective immune down regulation in a subject to a gene delivery component or to an artificially expressed gene, the kit comprising in packaged combination or containers reagents or a combination of reagents capable of producing selective immune down regulation, and at least one other means for generating general immune suppression, or anti-apoptotic effects in said subject, or both, and buffers and instructions therefor.

76. A process for producing selective immune down regulation in a subject to a noncellular immunogenic component capable of biological function or interfering

with biological function in said subject, said process comprising introducing into said subject a reagent or combination of reagents capable of producing selective immune down regulation.

77. The process of claim 76, wherein said selective immune down regulation is dominant or said reagent or combination of reagents are capable of producing dominant immune down regulation.

78. The process of claim 76, wherein said noncellular immunogenic component is selected from the group consisting of an antibody, an antibody/antigen complex, an antibody/antigen cell matrix, an enzyme, an antitumor protein or protein inhibitor, a receptor, a hormone, a ligand, an effector and an inducer, or a combination of any of the foregoing.

79. The process of claim 78, wherein said antibody or said antibody in said antibody/antigen complex or antibody/antigen cell matrix is polyclonal or monoclonal.

80. The process of claims 78 or 79, wherein said antibody is directed to one or more epitopes on an immune cell.

81. The process of claim 80, wherein said epitope is selected from the group consisting of CD2, CD4, CD8, CTLA4Ig, OTK, anti-Th, or a combination of any of the foregoing.

82. The process of claims 78 or 79, wherein said antibody is directed to a member selected from the group consisting of an apoptotic factor, a lymphokine, a cytokinin, and a histocompatibility factor, or a combination thereof.

83. The process of claim 82, wherein said histocompatibility factor is selected from MHC Class I and MHC Class II.

84. The process of claim 78, wherein said enzyme comprises a metabolic enzyme involved in the conversion, consumption or degradation of a metabolic product or intermediate.

85. The process of claim 84, wherein said metabolic enzyme is selected from the group consisting of L-asparaginase, superoxide dismutase, bilirubin oxidase, and adenosine deaminase, or a combination of any of the foregoing.

86. A kit useful for producing selective immune down regulation in a subject to a noncellular immunogenic component capable of eliciting a biological function, said kit comprising in packaged combination or containers a reagent or combination of reagents capable of producing selective immune down regulation.

87. The process of any of claims 1, 16, 42 or 57, wherein said selective immune down regulation is effected or obtained by means of oral tolerization.

88. The process of any of claims 1, 16, 42 or 57, wherein said selective immune down regulation is effected through a selective immune suppressive.

89. The process of claim 88, wherein said selective immune down regulation is dominant.

90. The process of claim 88, wherein said selective immune suppressive comprises one or more members selected from an immune suppressor, an antibody to a T cell, an immune suppressive drug, and a cytokine, or a combination of any of the foregoing.

91. The process of claim 90, wherein said antibody to a T cell is selected from the group consisting of anti-CD4, anti-CD8 and OTK, or a combination of any of the foregoing.

92. A process for producing selective immune down regulation in a subject to a native antigen or group of native antigens comprising subjecting said subject to at least two separate immune modulating treatments at least one of which comprises oral tolerization.

93. The process of claim 92, wherein said native antigen or group of native antigens are derived from the subject's cell or tissue, or fragments thereof, or from the subject's cell or tissue or fragments complexed with antibodies, or from partial digests of any of the foregoing.

94. The process of claim 93, wherein said antigen or group of antigens are selected from the group consisting of collagen, islet cell, liver cell, kidney cell, heart cell, pancreatic cells, spleen cell, and nucleic acid, or a combination of any of the foregoing.

95. The process of claim 92, wherein said antigen or group of antigens comprise a cell, tissue, organ, or components or fragments thereof, transplanted from a donor.

96. The process of claim 95, wherein said donor has been treated with the subject's cells, or tissues or fragments or conjugates to obtain selective immune down regulation prior to transplantation of said cell, tissue organ, or components or fragments thereof to said subject.

97. The process of claims 95 or 96, wherein said donor's cell, tissue, organ, or components or fragments thereof are derived or taken from skin.

98. The process of claims 95 or 96, wherein said donor's cell or tissue comprises bone marrow.

99. The process of claim 92, wherein the second treatment is selected from the group consisting of selective immune down regulation, immune suppression, and anti-apoptosis.

100. The process of claim 92, wherein said at least two separate immune modulating treatments both or all comprises selective immune down regulation.

101. The process of claim 92, further comprising administering at least one cytokine to said subject.

102. The process of claim 92, wherein said at least two separate immune modulating treatments are given repeatedly in a single dosage period or in a series of dosage periods.

103. The process of claim 92, wherein said at least two separate immune modulating treatments are given separately or concurrently.

104. The process of claim 92, wherein said subject is sensitive or naive to said antigen or group of antigens.

105. The process of claim 92, wherein said subject is a mammal.

106. The process of claim 105, wherein said mammal is a human.

107. A process for producing immune suppression in a subject comprising administering macromolecules or compounds to said subject, said macromolecules or compounds being immunogenic or being capable of providing immune suppression, wherein said subject was treated to obtain selective immune down regulation to said macromolecules or compounds, permitting thereby repeated use of said macromolecules or compounds with substantially little or no immune response.

108. A process for transiently producing selective immune down regulation in a subject to a specific antigen comprising transferring non-native cells from a donor to said subject, wherein said donor that has dominant selective immune down regulation.

109. The process of claim 108, wherein said subject is immunosuppressed prior to or during said transferring step.

110. The process of claim 108, wherein said subject is immunosuppressed prior to and during said transferring step.

111. A process for producing selective immune down regulation in a subject to an antigen or group of antigens comprising introducing into said subject non-native compounds or non-native immunological reagents capable of producing immune suppression in said subject, wherein prior to or during or prior to and during said introduction step said subject is exposed to said antigen or group of antigens, and wherein said subject has been subjected to selective immune down regulation to said non-native compounds or non-native immunological reagents.

112. The process of claim 111, wherein said antigen or group of antigens are native to said subject.

113. The process of claim 111, wherein said antigen or group of antigens are transplanted from a donor to said subject.

114. The process of claim 111, wherein selective immune down regulation comprises antibodies to T cells.

115. The process of claim 114, wherein said antibodies are directed against CD4, CD8 and OTK, or a combination of any of the foregoing.

116. The process of claim 111, further comprising administering at least one cytokine to said subject.

117. A transplantation process comprising introducing into a recipient subject (i) a donor liver or cells from a donor liver, and (ii) cells, tissue or organs from said donor, wherein said transplanted donor liver or donor liver cells inhibit rejection of said donor cell, tissue or organ by said recipient.

118. The process of claim 117, wherein said cells from the donor liver comprise immune cells.

119. The process of claim 117, wherein said cells from the donor liver comprise dendritic cells.

120. The process of claim 117, wherein said cells, tissues or organ from said donor to be transplanted are selected from the group consisting of bone marrow, kidney, heart, lung, pancreas, islet cells, skin, bone, or cells or tissues derived from any of the foregoing.

121. A transplantation process comprising the steps of:

establishing selective immune down regulation in a recipient subject to the antigens of a donor; and

introducing into said recipient subject cells, tissue, or organs, or components thereof from said donor.

122. The process of claim 121, wherein at least one immune modulating treatment has been administered to said recipient subject or said donor or both.

123. A transplantation process comprising transplanting cells, tissue or organs from a donor to a recipient subject, wherein said recipient subject has been subjected to at least two independent immune modulating treatments, at least one of which comprises selective immune down regulation.

124. The process of claim 123, wherein said cells, tissue or organs from the donor comprise bone barrow.

125. A process of inducing tolerance in a first subject comprising transferring cells from a second subject to said first subject, wherein selected immune down regulation has been established in said second subject by the transfer of immune cells.

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